

Smart Schools Save Energy



Promoting Energy Efficiency
In New York State Schools

United States Senator
Hillary Rodham Clinton



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Did you know that each year, America's schools spend more on energy costs than they do on books and computers combined?

As Congress continues to debate education spending, there is at least one simple solution to cut down on costs: energy efficiency measures have the potential to save America's schools \$1.5 billion. We can reinvest those dollars into educational resources, like books, computers or more training for our teachers, that can make a real difference for our children.

As a member of the Senate Committee on Health, Education, Labor and Pensions and the Senate Committee on Environment and Public Works, I recognize the opportunity we have to improve the education and health of our children while protecting our environment. In fact, I recently introduced legislation in the Senate, the *Healthy and High Performance Schools Act of 2001*, to provide grants to help schools become more energy efficient.

To help you and your school district become more energy efficient, please review the simple tips included in this brochure. They can help all New York schools save energy and money.

Sincerely,

Hillary Rodham Clinton

Smart Schools Save Energy!

Most Schools Spend More on Energy than They Spend on Books and Computers

Each year, American elementary and secondary schools spend approximately \$6 billion on energy costs. That is more than they spend on books and computers combined.

Schools could save 25 to 30 percent of this money – \$1.5 billion – through better building design, use of energy-efficient and renewable energy technologies and sensible changes in operations and maintenance.

Typically, nearly one-third of the energy used in a U.S. school goes to waste due to outdated technology, old equipment and poor insulation. The least energy-efficient schools, many of which are in desperate need of upgrades and repair, use almost four times as much energy per square foot as the most energy-efficient schools. As a result, there is a huge potential for savings in schools that need repairs the most.

Systematic use of energy efficient design elements in school construction and renovation projects can save on current energy costs, leaving more money for teacher salaries and educational materials. Wasted energy dollars can be redirected to our schools' primary mission: education.

Saving energy can become a project that involves a school's students. They can learn about energy efficiency while helping to identify ways the school can reduce its power consumption. Schools within a district can compete to see which are most successful in cutting energy costs. Students can bring what they learn into their own homes, helping their families save energy and money at the same time.

Things Every School Can Do to Save Energy and Money

Heating and Cooling. Heating and cooling systems use a great deal of energy. Automated controls and other advanced technologies can help make schools more energy efficient. Using an energy management system to coordinate heating, ventilation and air conditioning can help ensure rooms are heated and cooled only while being used. This will improve comfort and the environment where teachers teach and children learn.

Building Exterior. Improving insulation can help avoid high energy bills in the winter and summer. Adding insulation to walls, floors, attics and ceilings can save money. Encouraging people to shut outside doors behind them will save energy by reducing the amount of heated or cooled air escaping the building.

Windows. Window treatments such as shades, films and screens can help energy efficiency in schools, especially those with large glass areas facing south or west. In the summer, window treatments can dramatically reduce the need for air conditioning. Use of Low-e argon filled window systems – windows filled with a layer of insulating gas – will reduce heat gain and heat loss.

Lighting. Energy-efficient fixtures, bulbs and lamps can significantly reduce energy use. It is also important to keep fixtures and lamps clean. New construction and renovation using natural sunlight to supplement or replace artificial lighting can save considerable energy. In addition, you can save energy by turning off the lights in classrooms that are not being used, installing occupancy sensors to control lighting and replacing all exit signs with more efficient light emitting diode (LED) exit signs.

Equipment and Appliances. Energy use by computers and office equipment is one of the fastest-growing sources of electricity consumption in schools, businesses and homes and is expected to grow by as much as 500 percent in the next decade. Research has shown, however, that much of this energy is wasted when equipment sits idle. Energy-efficient copiers, computers, televisions and light fixtures use less electricity because they transition into a low-power sleep mode when they are not being used. These devices can also save on air-conditioning costs because they produce less heat. Products with the ENERGY STAR label – the U.S. Environmental Protection Agency’s (EPA) label for energy efficient appliances - can save a typical school as much as 50 percent in energy costs. Remembering to turn off equipment when leaving at night will also save electricity.

Solar, Wind and Geothermal Power. The sun, wind and earth’s core can all serve as virtually pollution-free sources of energy for schools. Although they may require a larger initial investment, technologies that harness the power of sun and wind such as solar heating, photovoltaic systems and wind turbines can be very cost-effective. Geothermal heating and cooling systems, which move heat to and from the earth, actually produce more heating and cooling energy than they consume in electricity use. These systems use about 25 percent to 50 percent less energy than traditional heating and cooling systems.

School Kitchens. The energy used for cooking, refrigeration, and heating hot water represents almost 15 percent of the total energy used in a typical school. In new schools, informed facility planning and equipment purchases minimize the energy consumed for food preparation and storage. Conscientious operation and maintenance of food service equipment in schools results in significant energy savings.

New York Schools Have Proven These Measures Can Work

These New York Schools have all worked to improve their energy efficiency with the EPA's ENERGY STAR, a program that works with organizations to set and reach energy efficiency goals.

Smithtown Schools. Smithtown School District on Long Island recently became the first school district in New York State to receive the ENERGY STAR label, which recognizes excellence in energy performance. Smithtown completed an extensive lighting modification project using the latest energy-efficient technologies in three of its elementary schools. Smithtown Elementary, Mount Pleasant Elementary and Dogwood Elementary will display the bronze plaque with the ENERGY STAR logo in their buildings. The district now uses about five million kilowatts less each year than it did in the 1970's.

Kingston Schools. By replacing many of the windows, installing new boilers and making other energy efficient upgrades, the Kingston School District in Ulster County made dramatic improvements in the energy performance of all the schools in the district. In 2000, the school district saved more than \$395,000 through its energy-efficiency upgrades and in 2001 received an ENERGY STAR Partner of the Year Award.

Sachem Schools. Sachem Central School District on Long Island was awarded the ENERGY STAR Partner of the Year Award in 2000. Sachem reduced energy costs by \$500,000 per year by installing energy-efficient lighting fixtures and new boilers. Sachem is now saving nearly 300,000 gallons of oil and 3 million kWh annually. The resulting pollution prevention is the equivalent of planting 645 acres of trees.

Other New York Energy Star School Partners:

Connetquot Central School District * East Rockaway Public Schools * Fordham Preparatory School * Patchogue Medford Schools * Rochester City School District * Rye City School District * Wantagh Union Free School District.

Contact Experts Who Can Help Your Schools

Please contact the following experts who can help you find ways to make your school district more energy efficient.

**New York State Energy Research and Development Authority
School Assistance Program**

Contact: Don LaVada

Phone: 518-862-1090, ext. 3318

Email: dgl@nyserda.org

U.S. Department of Energy – Energy Smart Schools

Contact: Don Fort

Phone: 1-800-DOE-3732

www.eren.doe.gov/energysmartschools/

U.S. Environmental Protection Agency – ENERGY STAR

Phone: 1-888-STAR-YES

www.energystar.gov

The Alliance to Save Energy – Green Schools Project

Contact: Merrilee Harrigan

Phone: 202-857-0666

<http://www.ase.org>

Also feel free to contact my offices with questions (see below and reverse).

Office of Senator Hillary Rodham Clinton

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Sources: United States Department of Energy, Energy Smart Schools Program; United States Environmental Protection Agency ENERGY STAR Program; News 12 Long Island.

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